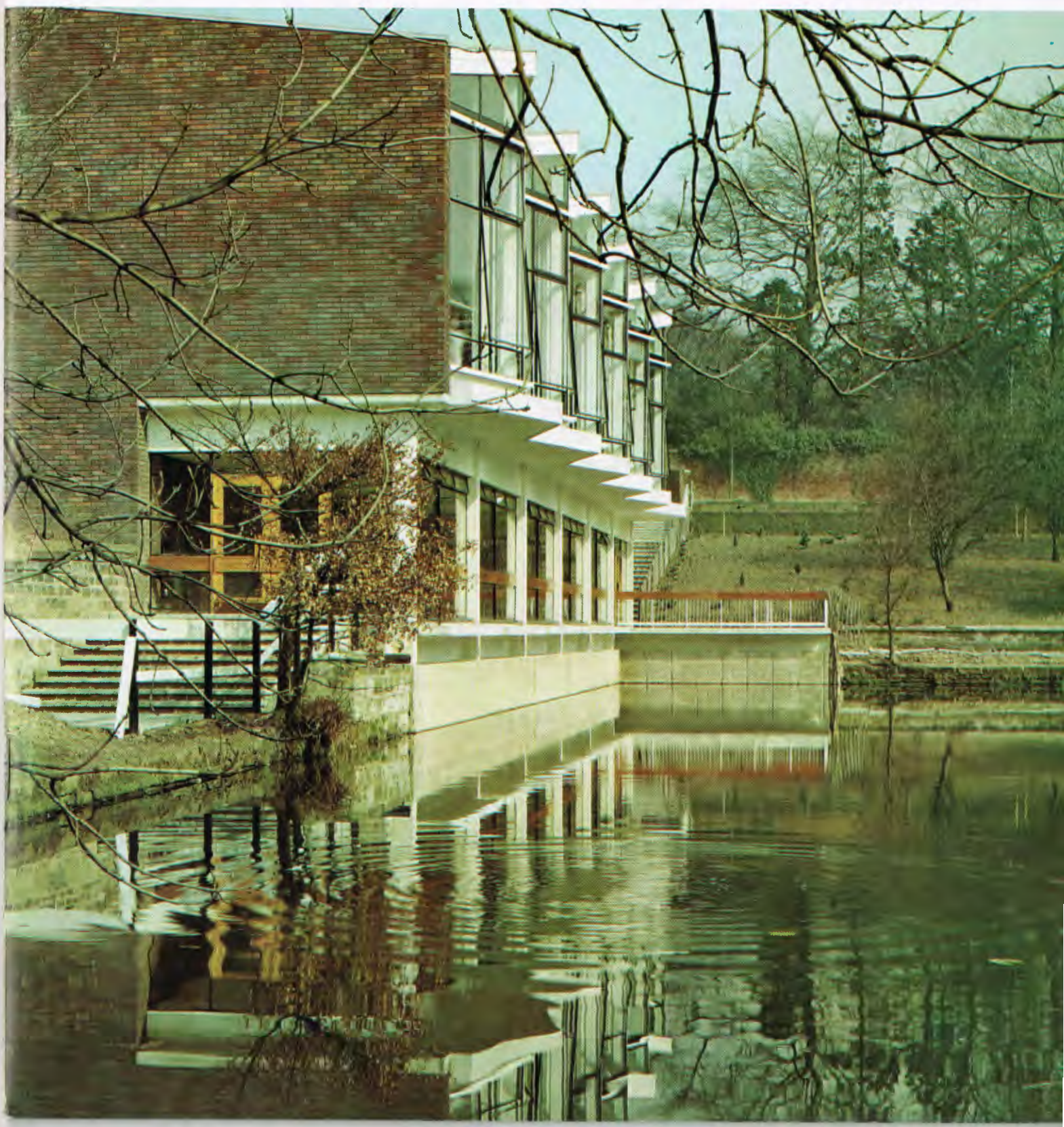




# ICI MAGAZINE

JUNE/JULY 1965





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**FRONT COVER:** *Pharmaceuticals Division's water garden restaurant at Alderley Park*

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Visqueen polythene building sheet provides weather protection during the winter months for the construction of an hotel in Bournemouth



# BRITISH VISQUEEN LIMITED

by Sandy Thom

British Visqueen is eleven years old this year, but one might say that its history really began two years earlier, in 1952, when Mr. P. C. Allen, then chairman of Plastics Division and now one of ICI's Deputy Chairmen, had a chance meeting in the United States with the head of the Visking Corporation of America. At the time of this meeting the American firm was making polythene film by a unique process, which consisted, in essence, of blowing a bubble. Polythene film had already declared promise of a great future, and in Mr. Allen's opinion much mutual benefit might derive from the formation of a joint company to operate on this side of the Atlantic, using the American process for the film making and the ICI polymer for the basic material. The Visking Corporation were to hold a one-third share of the shareholding and ICI the remainder.

This duly came about, and early in 1954 British Visqueen became a legal entity.

Initially production was at Hillhouse, the Plastics Division factory in Lancashire, but by the end of the year the first stage of the present large plant at Stevenage had been completed and production moved there.

In the light of subsequent developments it is interesting to note that the initial tonnage of polythene film in 1954 was a mere 800 tons. An annual production of the order of 60-70,000 tons is anticipated by the middle of the 1970s.

To my mind there are three outstanding dates in British Visqueen's crowded thirteen years of history. The first of these is 1952, when, as already mentioned, Mr. Allen encountered the head of the Visking Corporation in America; the second is 1959, when a decision of immense importance to the future development of the Company was taken—the decision to change over from just making film on the reel for other manufacturers to convert into finished products,

and to go in for making bags and containers on its own account.

Much hard thought went into the making of this decision, which involved of course a radical change not only in the Company's relations with customers and the market in general but necessitated a no less radical upheaval in the actual nature of the machinery on the plant. Production on the reel had risen from the initial 800 tons of 1954 to the satisfactory total of 4500 tons by the time of which we speak. The Company had no desire to lose this market, indeed it had every wish to expand it. Clearly, large extensions to the plant would be required.

Nor was this change of itself the only radical transformation of 1959. Some time previously the Visking Corporation in the United States had been bought by the Union Carbide Corporation. This produced a somewhat awkward situation, since ICI and Union Carbide were in keen competition in the polythene polymer



Top: The Works at Stockton  
Left: Corn being poured on to a 24 ft. wide polythene sheet, to be covered with a similar sheet for storage  
Far left: The factory at Stevenage

markets of the world. At the same time they found themselves in partnership over British Visqueen. Negotiations, therefore, had opened between the two principals in the undertaking, and by the close of 1959 ICI had acquired the entire shareholding of British Visqueen, which thereby became a wholly owned subsidiary.

One further and very relevant factor in these changes was that British Visqueen had, almost coincidentally with the severance from the Visking Corporation, acquired a licence from another American firm who had perfected an "in-line" process for making and printing polythene bags from film, whereby they could use this process exclusively in the UK.

All of this was exciting enough, but possibly the most significant single event of this highly significant year, so far as British Visqueen was concerned, was one



which attracted little immediate attention. This was the bringing back from the United States of a sample polythene sack. The people at Stevenage regarded it with interest but wondered whether in view of its cost it was likely to be of any significance commercially.

Events were soon to demonstrate that it had. For the date which is regarded as the third of the trio which have turned out to be of outstanding significance for British Visqueen is 1962, when Billingham—or Agricultural Division as it is now known—decided to use polythene sacks for the packaging of its entire compound fertilizer output.

This was truly a significant event and one which presented Stevenage with an immediate and critical problem. For Billingham, the decision once made, wanted the sacks to be available with the shortest possible delay. Stevenage had not, immediately, the necessary plant or factory space to deal with such a large extension of demand. Energetic moves—and perhaps the proverbial “little bit of luck”—discovered a factory at Stockton, and therefore very close to Billingham itself, which could be, and speedily was, acquired. By March 1963 the Stockton plant was in operation and has proved of great value ever since, not only producing the bulk of all polythene sacks manufactured by British Visqueen but also absorbing a number of employees from Agricul-

tural and Plastics Divisions who might otherwise have been redundant due to the necessary closing down of certain plants.

We must now revert for a moment to the historical narrative. After the separation from the American interests, British Visqueen, besides going into the bag-making and printing business, continued to increase its sales of polythene film in one form or another. It took over the polythene activities of Paper Goods Ltd., one of the then Alkali Division's subsidiaries, and also acquired a small conversion firm called Spesco, whose know-how in the field of printing and conversion was most useful at Stevenage and through which, initially, the Stevenage products were sold. About the same time a reversion was made to the original concept of a joint holding, when Messrs. E. S. & A. Robinson, the well-known British manufacturers of flexible packages, took up a one-third interest in the company, which is the arrangement today.

This has not, be it said, at all altered British Visqueen's position as a fully integrated part of ICI. All British Visqueen staff operate under ICI conditions, take part in the Works Council Scheme and share in the profit-sharing benefits. The chairman of British Visqueen is Mr. E. G. Williams, who is also chairman of ICI's Plastics Division, of which for organisational purposes British Visqueen ranks as a subsidiary.

And so we arrive, more or less, at the present time, when British Visqueen, with its large and expanding industrial site at Stevenage, together with the thriving plant at Stockton, which is also capable of considerable expansion, represents an important element in British industry. For not everybody has an idea of the enormous range of the products based on polythene film which are currently in demand—a range which extends from the smallest of small bags for domestic and retail trade uses to sheets forty feet wide for use in agriculture.

So varied is the use of polythene film and so diversified its industrial applications that it is true to say that there is at least one application for almost every industry extant.

British Visqueen, although in stringent competition with other manufacturers or suppliers in almost every market, can proudly claim that it is the largest manufacturer of polythene film anywhere in the world outside the United States. When it comes to the manufacture of polythene sacks it is the largest, bar none.

The development of the polythene heavy-duty sack is really a tale in itself. At first a little more expensive than the equivalent five-ply paper sack, it has virtually driven the other out of existence, so far as the packaging of compound fertilizer is concerned, and is now actually cheaper. The advantages of the polythene sack—with its resistance to damp and water, its toughness and resistance to tearing, etc.—hardly need enumerating when it comes to storage in the open or in second-grade buildings.

Apart from agricultural uses, other properties of polythene film—such as its non-toxicity, chemical inertness and the like—make it particularly suitable for storage of foodstuffs, both animal and human; while its immunity to the effects of temperature and humidity render it ideal for storage where these are of either extreme.

It is, naturally, hoped at Stevenage that polythene sacks will be increasingly used by other industries. Mond Division, within ICI, are becoming large customers, and so are Plastics themselves.

On the question of price, British Visqueen can point with satisfaction to a notable reduction. Whereas film on the reel had to be quoted at about 5s. per lb. in 1957, it is now quoted at below half



A selection of heavy-duty 'Polysax' bags

this price. And whereas the original price of polythene sacks exceeded that of five-ply paper sacks, they are now substantially cheaper. These reductions are due primarily to two causes, the reduced cost of the basic polymer which ICI has effected over the years, and the economies which always follow upon large-scale production of a product.

The fortunes of British Visqueen have been to some extent linked with the fortunes of the New Town of Stevenage itself. This new community, a bold experiment in helping to solve the appalling post-war housing shortage of London, was the first of several to go by the inglorious name of overspill, but despite some quite serious teething troubles, and an initially rootless and uncommitted population, it has progressed towards a distinctive personality of its own and a sense of community.

Necessarily, however, at first the turn-

over in population was high—the call of London to Londoners is ever a potent call—and this turnover in population was reflected in the turnover of our payroll employees. But in British Visqueen we have, and fittingly, a brand new industry for a brand new town, and the success of one is necessarily the success of both. Stevenage is increasingly aware of British Visqueen, while British Visqueen increasingly feels itself a part of Stevenage.

The town has now an enviable number of up-to-date amenities in the way of entertainment, and not only for the youthful. One noticeable development of the last ten years—motor cars have succeeded bicycles as the standard mode of individual transport!

Which brings us from today to tomorrow. For the future, the polythene film market is expected to continue its expansion at a rapid rate, and it is part of British Visqueen's job to see that it

gets its full share of this expansion. New applications for polythene film will need to be developed, and among those at present at an early stage are shrink wrap films for packaging, and polythene waste bags for domestic refuse collection. In addition other films will either be made or converted, or both. We are already in a position to print and convert large tonnages of polypropylene film, and sales are beginning to develop.

The market for plastic films in packaging is estimated as a large growth market, and one in which British Visqueen has a major part to play. There is therefore a great potential for growth and development of our Company, but it must be remembered that for many reasons the market is highly competitive, and very considerable efforts will be required in order to take full advantage of the growth prospect which the market potential affords.







## Some thoughts on catering

by Reg Stinton

In a sense we are all caterers, in that we have had from time to time and after our fashion to organise and prepare the service of meals for ourselves, our families or our friends. But that, of course, is catering in a very narrow sense, in a dictionary sense in fact. Professional catering is a very different kettle of very different fish.

Before ICI, for instance, will accept anyone as a potential supervisory caterer he has to undergo very lengthy training. For three years he will have undertaken a full-time course at either a technical college or possibly at a well-known hotel or restaurant. This, the innocent might imagine, would be an experience at once so practical and so inclusive that little

else could be necessary, but there is more to catering than even hotels and restaurants can exemplify. So after this already extensive practical indoctrination the prospective ICI caterer is expected to have another three years on the trade side of the business, where the whole complex mystery of the provisioning of the public, with all that it implies in the way of dietetics, storage, transport, hygiene, costing, wholesaling, retailing and seasonal variation, will be unravelled for him, the submerged eight-ninths, as it were, of the iceberg before ever the ingredients come into the kitchens and preparation of the actual meals begins.

Let us assume, then, that our prospective caterer, having devoted six inten-

sive years to the study of these complexities, and being of an energetic, intelligent and sufficiently agreeable personality to appear a promising candidate for an occupation of this nature, has applied for a job as a caterer with our company, what next? He will be given a further two years training by the Company in its own methods—in the kitchens, stores, control offices—the lot. He will thus have a very thorough grounding both in the practical and theoretical functioning of catering in relation to ICI's own domestic circumstances. Eight years in all before such a man finds himself posted to a Division with responsibility for part of the Division's catering service! It may seem a very long time in which to acquire a proficiency

in what to many will always appear a fairly rule of thumb business, but in fact catering is a trade in which there are innumerable pitfalls and where, to put it mildly, it is best not to buy experience at the expense of the customer.

There is one point I would like to make at once. Sometimes people speak of catering in industry as though it were something on its own, something of a poor relation to catering proper. To me that is just nonsense. Catering by way of canteens is the same as catering through a chain of restaurants, with the same wide variety of demand, from the simple cup of tea to the four or five course meals that are served at long service awards. Prices in our cafeterias and restaurants are lower than outside prices because of the Company policy of subsidising our catering activities, and within this policy the basic principle of giving value for money remains the first care of the Company caterers.

In ICI, including the former BNS units, we have a hundred canteens of all kinds, providing employment for over 2300 catering employees. Such a large-scale operation demands a high degree of professional competence at all levels.

The provision of the foodstuffs required is of prime importance. Wherever possible supplies are obtained directly from the producer, for to do so enables us not only to buy to the best financial advantage but gives the further advantage of ascertaining the qualities of the products and the manner in which they are produced. This advantage is limited to home-produced goods; imported foodstuffs, of which we consume quite large quantities, are purchased through wholesalers.

Quality control and specifications are of prime importance in purchasing foodstuffs and a very great deal of trouble is taken over this aspect. I might quote as an example the case of our meat contracts which are undergoing trials in one area. Not only do we specify sizes, weights and other essentials, but actual joints of lamb, beef, etc., are prepared to a strict specification in one of the Company's units for inspection by prospective suppliers. The joints are photographed, and each manager or manageress is provided with a copy of these photographs in order that all deliveries of meat can be seen to comply with our standards of quality and preparation. Photographs of these joints are then given to the successful firms for purposes of reference and comparison.

Many of our food requirements are purchased by contract because this is the logical and most efficient way of dealing with the problem. A phrase which is often misused in situations like this is that of "bulk buying." This is quite a different matter to contract buying because bulk buying involves the setting up of depots in strategic places for the receipt of the bulk goods and the development of a complex transport system for their distribution. In contract buying each unit specifies the quantity of goods it requires for each delivery, and it is the supplier's responsibility to deliver the goods when wanted.

with frozen and canned varieties, our policy is still wherever practicable to buy fresh produce. Prolonged bad weather conditions may, however, necessitate resort to what are called "convenience foods"; and very palatable they are too, to say nothing of the great advantage they possess from a canteen manager's viewpoint of almost totally eliminating waste in their preparation.

The responsibility of selecting the best product is a heavy one, as many will appreciate. Housewives are often hard pressed to provide food which is agreeable to all the family—and our "family" is



Above: Hexagon House restaurant, Dyestuffs Division

Far left: Welwyn (Plastics Division) restaurant arranged for a long service award dinner

In this way the advantages of pooling our spending power are extended to each catering unit irrespective of its size. It will be gathered that our shopping list is quite formidable and, to quote but a few of our normal requirements, we negotiate for the supply of 240,000 gallon cans of fruit and vegetables; 120,000 lb. of canned meats, 200,000 lb. of cooking fats, 748,000 lb. of flour, 56,000 lb. of coffee, 45,000 lb. of tea, and 1,280,000 portions of soup-mixes every year. But not everything is best obtained in this way, particularly where perishable supplies are required, and canteen managers are in general free to make local arrangements with individual suppliers where this procedure is more practical. Variety must always be the spice of a caterer's life.

In regard to vegetables, despite the very large progress made in recent years

93,000 strong! Our selection procedure has been developed over several years, and although we adjust our techniques from time to time, in tune with changes in the products which are submitted, the original basic arrangements still prevail.

A committee of five, including four catering officers from Divisions, which we call the Food Contracts Committee, meets monthly to review what is on the market and to test foodstuffs. Thus, for example, the committee normally devotes the August/September meetings to testing the season's stock of canned vegetables which are then coming on to the market. The first requirement of the tests is that all the products shall be sampled anonymously. All labels and other marks which could enable the source of supply to be identified are removed, and the samples are given a code marking by the chairman





Left: Decorating cakes at the Wilton Works central bakery  
Top: The main kitchen in the Thorntree Restaurant, Wilton  
Above: A prizewinning entry from Wilton at a recent exhibition of modern cookery at Newcastle upon Tyne

of the committee. Each member of the committee records his opinion of the product under headings, such as palatability, colour, or sweetness, according to the product being assessed, and the resultant score cards are analysed and discussed, still under code, in order to determine the product most suitable for our use. Only when this has been decided are the price and the name of the supplier disclosed.

In order to prevent the possibility of a flow of volunteers applying to assist this panel in their work, let me say immediately that it is a very onerous task, since they may test up to forty different samples during the day, and unless one is skilled in the work one's ability to assess a product becomes rapidly impaired after the first samplings. When testing tea and coffee the sampling is duplicated, since these are very susceptible to the relative hardness or softness of the water supplies.

Our prime consideration is the achieving and maintenance of a good standard of supplies, since no degree of skill can ever change mediocre goods into first-class ones. These standards must be achieved within the framework of the Company's catering policy, which in this instance is exemplified by the food cost target system. This system was introduced to ensure, within practical limits, that equal value is given for money paid in every one of the Company's canteens irrespective of size. The ability of even the smallest units to buy basic commodities at the same price as the largest units through the food contracts is a means to this end.

Every canteen manager aims at contriving a menu which will not only please as many individual tastes as possible but which will avoid monotony. I cannot here go into details, as I am concerned only with presenting the overall picture, but

it needs little imagination to foretell many of the difficulties. Delicacies and dainties put up the cost of a meal, but a diet which ignored all luxuries would indeed be a dull affair. Skill and ingenuity go into balancing the claims of the more solid fare against the desire for some attractive frills, as it were.

Budgeting has of course to be strict. The purely accountancy side is looked after by the Company's own accountants, but each catering manager is responsible for his own system of control, and this of course is very important, as each manager must know at the week's end whether his costs and revenue are in balance.

A caterer needs his wits always about him, and he must be prepared to accept comment, whether it be misinformed or informed, with equal aplomb, knowing, as he will do if he is worthy of the name of caterer, that even the most unreasonable

complaint will tell him something about his customer or his business which it is to his advantage to know. He may even come to accept that if he is part of an organisation which is serving over eight million "dinners" every year he will inevitably have his share of criticism because no organisation is capable of dealing with this volume of food without the occasional complaint. We are all very sensitive when we eat or drink. We all have our little foibles, likes and dislikes. Invite a dozen people to tea and note all the permutations that your guests will ask for. "Weak tea," "strong tea," "no milk," "a little milk," "plenty of milk," "no sugar," "just the usual amount of sugar," "milk first," "milk last," "lemon, please"—there are probably others, but if you are unlucky you will have had eleven permutations of the simple cup of tea, and each of the eleven people will find it hard to accept that anybody could possibly drink it in any way except the one they prefer. As for the twelfth, which will be you, the chances are that you may be the person who is prepared to have it "as it comes," reasonably strong, reasonably milky, and reasonably sweetened. You are the one we cater for.

Some years ago people were very conservative. If they had not previously encountered a dish—or if it were, say, of foreign origin—they regarded it with grave suspicion. Today, thanks to greatly extended foreign travelling, people are much more ready to risk a novelty. Standards too have undoubtedly risen and customers are more demanding. The poor standards of cooking which for so many years were the mark of Britain's lesser-known hotels and restaurants are not readily tolerated in this day and age. The fact that a dish—or a foodstuff—is new is now frequently a commendation. Next to this, I suppose, comes the rapid extension of the self-service idea. As the costs of staffing ascend ever higher, more and more feeding places are turning over to the cafeteria idea, and this is true of canteens no less than teashops and cafés. Probably it is all to the good. After all, if one is paying out for a meal, the more of one's cash that goes into the food the better from one's own point of view, for at least that part of it comes back to one in the form of nourishment and enjoyment. What is spent on the adjuncts—the cutlery, curtains, decorations and china, and what is no doubt well spent in the sense that



The Food Contracts Committee in session



A scene in a canteen butchery

nice surroundings and good service contribute to the enjoyment and therefore to the digestion of nice food—is important but the food should always come first. For the lower priced meal, then, self-service is surely self-interest, and the principle is likely to be extended.

In the future we shall, I dare say, see an extension of frozen foods such as Accelerated Freeze Dried (A.F.D.) products. This is a field in which much time and money is being spent in order to perfect the process which, through the extraction of moisture after the product has been frozen, takes away a great deal of the weight of the food without detriment to its colour or flavour, while increasing to a phenomenal degree its storage life. When aided by microwave or hot-air ovens, which heat or cook meals in times best reckoned in seconds, a revolutionary change could come about but it is more

likely that these changes will supplement traditional methods and not replace them entirely other than in exceptional circumstances.

It is more likely that progress will be towards the more effective presentation of traditional foodstuffs in fully prepared forms. It will mean also that foods will become dearer, at least until buyers accustom themselves to the smaller quantities of foodstuffs required in the prepared form.

If your bent is exploration or potholing, frozen foods will be available in great variety, lightening both mental and physical burdens. On the other hand, if the limit of your physical exertion is the daily journey to work with the attendant standing in bus, tube or train, little will happen to change your traditional preferences of "a cut from the joint with two veg."—with instant service.



## THE CHAIRMEN OF DIVISIONS

### DR. C. R. MAVIN

*of Dyestuffs*

Dr. Mavin has spent the whole of his working life in the Dyestuffs Division, and at 56 is now its head. Going to visit him, you find a tall, still youthful man who is naturally courteous and friendly but also essentially reserved. The impression of reserve will be diminished by his frankness and lack of self-consciousness, but it will not be effaced. You will receive as well an impression of confidence and buoyancy, which may be to some extent a reflection of the corporate attitude of mind of the Dyestuffs Division, which has every justification for feeling confident and buoyant. "We are fortunate," he declares, "in our line of business," and by this he means that the Division, which despite its name it would be wrong to think of as being entirely—even primarily—concerned with the making of dyes and their auxiliaries, is fortunate in that its chosen field of organic chemistry presents endless opportunity and challenge.

By any standard the Division's turnover is big business, and it is spread over a wide front both as regards products and territorially. It is as well an intensely technical business. And Blackley—as old hands always think of the Division's headquarters—is justifiably proud of its technological background and achievements. The Blackley Technical Service and Research Departments undoubtedly rank very highly in the industries they serve; among their major contributions are the 'Monastral' colours, the 'Procion' range of dyestuffs which react chemically with the fibre, and, in a slightly different category, the development of a service of rapid colour matching recipes for customers by means of computers. While they impose great pressures, Dr. Mavin is convinced that the Division's intricate technical pattern, its wide range of consuming industries, and the organisation which these demand, are collectively a fundamental strength of great importance to the future of the Division and to the service which it can give to other parts of the Company. He appreciates that technical prowess alone is insufficient, and

that the commercial side of his organisation has a most important and difficult role—difficult because the Division has no monopolies, and in both the UK and overseas it fights against long-established competitors of international standing. For one who has spent most of his career on the technical side he is unexpectedly alert and sympathetic towards the Division's commercial problems, and pays handsome tribute to the progress which is being made. He is proud of the fact that last year almost half of the Division's turnover (excluding nylon) was overseas, and expects 1965 to show further progress in this respect. He believes that the new sales arrangements will enable the Division to get closer to its customers.

Thus the future of organic chemicals may be taken to be commercially and technically one of excitement and expansion. In this context the fastest expansion, apart from nylon, at the moment is shown by the polyurethanes for rubber foam products.

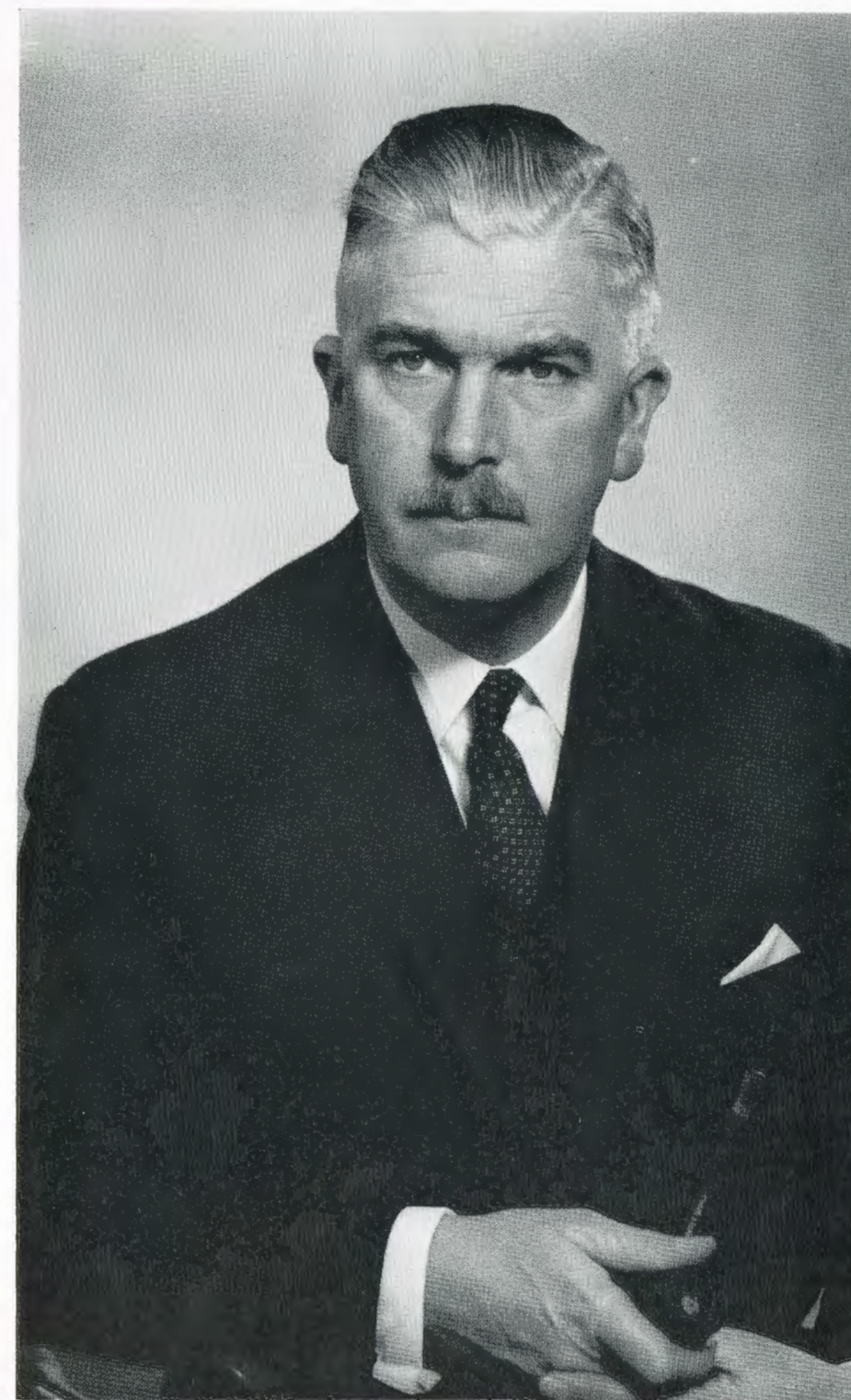
Dyestuffs Division's products are of immense variety and service many industries. Setting aside nylon, which is their outstanding manufacture in point of sheer volume and value, about four thousand separate products are on the production list. It is not surprising that the Dyestuffs Technical Service Department is the most widely consulted of any in the whole of ICI or that to hosts of customers "the Dyehouse," as it was once almost universally referred to, is what comes first to mind when anyone speaks of the Division.

Looking for fresh fields of endeavour, then, is a minor problem, for the Division is largely self-generating in this respect. What he has more to occupy himself with, apart from the inescapable and omnipresent need to ensure that the Division keeps its high place where expertise and invention are concerned, are the more imponderable problems of planning to meet the rapidly changing aspects of the times towards which we move. It is not, of course, a simple matter of forecasting

demand and ensuring adequate supply. Many and more unpredictable elements enter in, which can be simply summarised as what the shape, size and technical basis of the Division should be in five, in ten, in even twenty years from now.

Dr. Mavin confesses to a weakness for logic, but realises very well that few of the problems which confront him are definable in terms of black and white; mostly they are shades of grey, and very often instinct is the decisive factor. As chairman of a Division, he feels responsible for its internal as well as its external image. ICI is a commonwealth, and however different the circumstances of one Division may be from that of another, it cannot stand wholly apart or aloof. None the less he welcomes the increased autonomy that has come to Divisions as part of the new organisation of the Company. It accords with his own working philosophy, which is that there can be no responsibility and no maturity without delegation. Equally, there can be no successful delegation without, first, proper briefing. You must explain thoroughly what is in your mind and what results you are looking for. When those are properly understood, then give no piecemeal orders and directions but leave a man to get on with the job: he is then to be judged by results. That is how he himself likes to be treated and how he believes others should be treated. But this of course does not mean that one should not be available for consultation when necessary. But Dr. Mavin prefers that he should be consulted rather than that he should go looking over people's shoulders.

Like all Division chairmen, the thing of which he is most short is time. The amount of sheer reading matter which comes his way is daunting. Then there is the unrelenting succession of meetings, visitors, travelling—chiefly to London—and getting round the Division. Dr. Mavin travels mostly by train. He can work in a train but not in a car or an aeroplane, and whereas driving himself is one of his favourite occupations, and a real relaxation



however great the distance, he does not enjoy being driven. He does not suffer fools easily, but his secretary confirms that he is a man of much patience. His impatience is reserved for the affected and the insincere. If someone is straightforward, he can rely on a courteous hearing. One feels that there would be few people with whom it would be more helpful or more congenial to discuss any personal problem.

His relaxations are largely physical,

though, apart from golf, gardening and carpentry, active participation has perforce given way to observation from the side line. His wife shares his interest in golf, which for many years has dictated their choice of summer holidays; in Scotland, Norfolk, Devon, Cornwall and the like. As he says, golf courses are so often to be found in delightful surroundings which give scope to another of their common interests, nature in all its forms. They find golfers generally to be congenial

company. Soccer, however, was his first love in games, as befits one born in Newcastle and reared on Tyneside. At school, where he was made to play rugby, he would often play rugby in the morning and soccer in the afternoon. Then came cricket and afterwards tennis before, finally, golf.

Despite the usual remonstrances of a very busy man at not having time enough for favourite hobbies and pursuits, Dr. Mavin would not really have it otherwise. He agrees with the late Dr. Cronshaw, whose head in bronze now stands in the main hall of Hexagon House, that to be successful in any career your work, whatever it is, has to be your main intellectual interest, and he enjoys the great opportunity which his position gives him to do things for his Division.

He foresees big changes and much expansion in the industry over the years, whether or not Great Britain eventually enters the European Common Market. In the textile trades the trend is ever more towards synthetic fibres, which in turn means increasing research on the specialised dyes and finishes on which they depend. He would not fear the increased competition to which entry into the Common Market would expose the home-based dyestuffs industry. On the contrary, he believes that it would more than hold its own in a greatly extended market. Everywhere, he insists, the tendency is towards the use of more and more colour. Even on the golf course it is no longer a case of the heather-mixture-as-before, but a polychromatic diversification which would have surprised and even scandalised the previous generation. This trend will continue. Nor does he greatly fear the spread of home-based industries in what were formerly some of our principal export markets. The British dyestuffs industry should be able to keep a jump or two ahead with more sophisticated developments—and with colour consciousness will go progressively colour discrimination.

Dr. Mavin is what used to be called "good with his hands." He has a taste and aptitude for "trades" of diverse kinds, and essentially he is a do-it-yourself man, for whom relaxation is some form of self-employment. What should he have been if he had not been what he is? Dr. Mavin himself has no doubt of the proper answer: "I should have been a farmer."



# People & Events

**The Chairman's guest at Scarborough**  
The Minister of Labour, Mr. Ray Gunter (left), attended the ICI Central Council meeting at Scarborough on 14th May at the invitation of Mr. Paul Chambers, ICI Chairman (centre). With them in this photograph taken outside the Olympia Hall where the meeting was held is Dr. John Sisson, ICI Liaison Director for Nobel Division and Territorial Director for Latin America



**ICI men in Cup Final** Five of the Whitby Town team who played in the final of the FA Amateur Cup against Hendon at Wembley on 24th April were ICI employees. Here Sir Stanley Rous, president of FIFA, shakes hands with Maurice Crosthwaite, a machinist in Agricultural Division's Engineering Works and Whitby's outside left. Also in the picture are Eddie Nobbs (second from the right), an Agricultural Division electrician, and Eddie Barker (just visible behind Sir Stanley), the team captain and a maintenance fitter at Wilton. The other two ICI men were the centre forward Jimmy Mulvaney, who scored Whitby's only goal of the match, and Peter McHale



**Polypropylene seaweed** Artificial seaweed made from ICI Fibres polypropylene is being used experimentally at Bournemouth in an attempt to reduce inroads on the resort's sandy beaches. The "seaweed" is being anchored about 400 yards from the shore and is marked by buoys to warn swimmers to keep clear

**Made to measure** Capt. "Alligator" Edwards, a well-known authority on reptiles, visited London Zoo recently to lecture to the Zoological Society of London. With him in the car travelled one of his pet alligators, securely held in the back seat by a 'Terylene' safety belt, specially made by Britax Ltd.



**Pipeline across the Pennines** Subject to the necessary authorisation under the 1962 Pipeline Act, ICI is to build a 136-mile pipeline to carry ethylene from Wilton Works in North Yorkshire to Mond Division's Castner-Kellner Works near Runcorn (photographed above) and Hillhouse Works near Fleetwood in Lancashire, where plants to make vinyl chloride monomer by a new and more economical process using ethylene are to be built. The combined cost of the plants and pipeline will be £14 million





**New Chairman** Mr. Yousuf Khan has succeeded Mr. W. C. Walters as chairman of ICI (Pakistan) on the latter's retirement. Mr. Khan, who is 38, joined ICI (Pakistan) in 1952 as an accountant and was appointed a director in January 1963

**Silicones plant extension** A stage in the manufacture of silicone rubber at Nobel Division's Ardeer plant. Recently expenditure of approximately £3 million was authorised for a major extension that will give new capacity of about 5000 tons a year and make ICI one of the largest silicones manufacturers in Europe



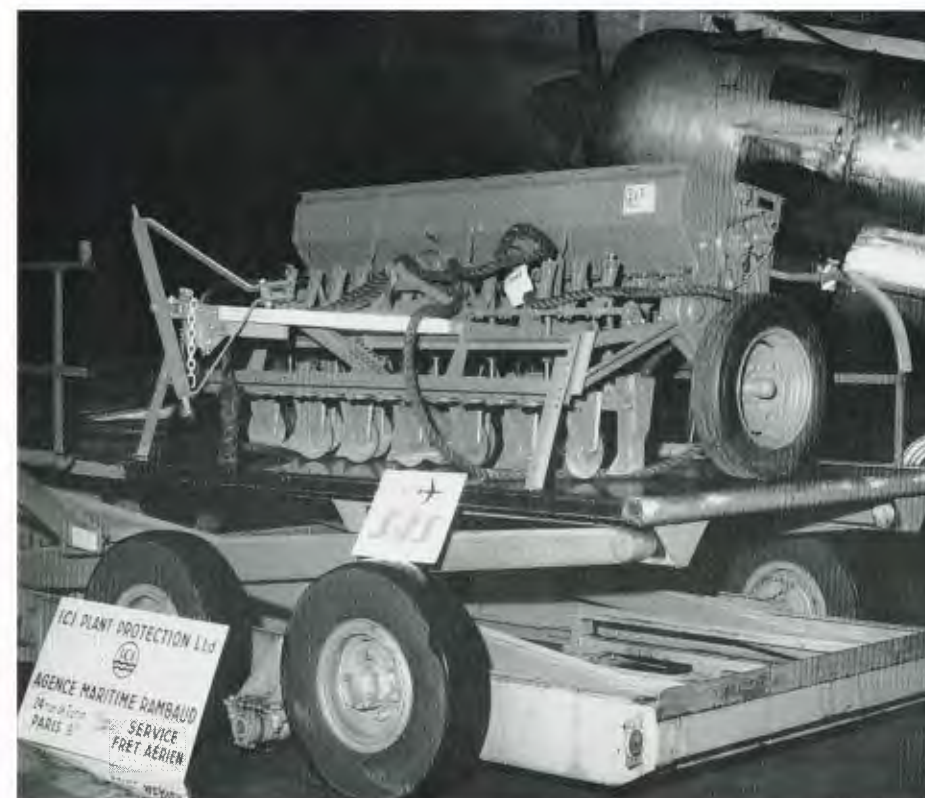
**Long service award** Mr. Dermot Carey, who completed 40 years' service with the Company on 1st June 1964, received a silver tea set from Mr. C. M. Wright, ICI Personnel Director, at a long service award ceremony held at the Manchester Sales Office on 9th April. Mr. Carey, Northern Regional Manager since 1960, takes up the new post of Regional Commercial Manager for the North in July



**New £4 million dyes plant** A general view of Dyestuffs Division's Huddersfield Works, where a new basic dyes plant costing around £4 million is to be built. Basic dyes, one of the older groups of industrial colouring materials, are used extensively for carbon papers, stamp pad and printing inks, for paper colouring, and in polishes and allied manufactures



**Indian polyester plant** The recently completed polyester fibre plant of Chemicals and Fibres of India Ltd. was inaugurated on 20th March by Shri S. K. Wankhede, Finance Minister of Maharashtra State, seen above examining some of the fibre with (left) Mr. F. H. Harvey, Technical Director of CAFI, and (centre) Mr. Cyril Pitts, chairman of ICI (India) and of CAFI. The plant is expected to have an eventual capacity of 10 million lb. of fibre a year, which is to be sold in India under the trade name 'Terene.' Left: Employees touring the plant on inauguration day



**In demand** Increased interest in the no-plough techniques created by the introduction of 'Gramoxone' W has placed a heavy demand on the first few direct-seeder machines developed by Plant Protection Ltd. to carry out this technique. When one of the machines was exhibited recently at the Paris Agricultural Show it had to be sent on afterwards to Denmark for trials. The only satisfactory method of sending it was by air, and so the 9 cwt. machine was flown by SAS from Paris to Copenhagen



**University post** Dr. Isaac Goodman (Petrochemical and Polymer Laboratory) has been appointed to a part-time readership in the Department of Polymer and Fibre Science at Manchester College of Science and Technology. This is the third joint appointment between ICI and the universities. The first two, at Edinburgh and Liverpool, were announced in August last year



# SEEING IS BELIEVING

by Lawrence Hogben

The use of technical films for explaining products and processes to actual or potential customers is hardly new. ICI, in company with other industrial firms, have been showing them for years past. The making of these films has been the simplest part of the job—getting them to the audiences who wish to see them has been the prime difficulty.

Potential customers are busy people. We know it, because we in ICI are custo-

mers ourselves. A salesman wishes to call on us in order to discuss a modification his company has invented for such-and-such a process or to demonstrate the advantages over its rivals of a certain piece of equipment. We know no more than what he tells us on the telephone of himself or of his proposition. It cannot be said that the spirit soars at the prospect of receiving him. He may suggest showing us a film, and he will ask, in the case of

such a large concern as ICI, whether there is a projection room and a projectionist, or whether he may bring his projector and his projectionist with him, and whether we will, if he does so, invite an audience to see his films. As an alternative, he may invite us to an evening showing. In either case, organisation, time and trouble will be necessary for something of hypothetical value.

ICI salesmen and technicians find, of course, the same response when the boot is on the other foot and when they in their turn are attempting to interest a potential industrial customer in something which ICI can supply. And thus we come to a development which, if not in the strictest sense new, has about it an element of indisputable novelty. The novelty is a truly portable 8 mm film projector, which, given an electricity supply, can operate in broad daylight like a television set, and in colour as well. It is a product of the world-wide explosion into home-made movies.

Now the Company already had a fair range of technical service films available in 16 mm versions and facilities for making new ones. With one of these new machines it seemed clear that there was a possibility that ICI could very usefully take these films into the offices of our European customers in order to tell them about our products. A pilot scheme was tried out with the enthusiastic collaboration of the ICI staff in Belgium: 8 mm colour and sound films were made, with commentaries in French and Flemish, from existing films of the Plastics and Mond Divisions and ICI Fibres. These were taken around to ICI customers and potential customers in Belgium and, going on some of these calls, I was delighted to see the way in which the offer of a film always elicited a ready appointment at a high level, *because the film could be shown in an office*. On my first visit, the proprietor of a small company said he was too busy to see us, changed his mind



"... Potential customers are busy people ..."



"... It cannot be said that the spirit soars at the prospect of receiving him ..."

when he heard about our Mond Division film, and called in his foreman to see it when we arrived. The foreman looked at the film phlegmatically then said: "This process could save me five men, and now I must go back to my old-fashioned job!" and left us. The proprietor had little option but to arrange an immediate trial. One can see how saving of time and trouble the film was in such a case, because the normal explanation of our process might well have taken two or three visits, whereas it was clearly described in the film, was immediately appreciated by the viewers, and was accepted because of the straightforward nature of the shots, which were completely realistic and practical.

In other cases, of course, the film has other values and purposes—for example, to instruct customers' staffs on the best ways of carrying out an operation such as creasing 'Terylene' trousers. Directors of clothing factories have viewed such ICI Fibres films with great interest, and then called for further showings to instruct their staffs. For audiences of fewer than

15, the 'Videotronic' 8 machine, which is now being taken out from most of our European branches, is operated in daylight with its own screen. But if a larger audience of up to 50 demand to see a film, the same machine is used in conventional manner, projecting in a darkened room on to a screen or wall.

For those who are uncertain about what ICI is (and they are much more common on the Continent than in England), a ten-minute, factual film about the Company and its importance has been prepared, and this too can be shown to new contacts in order to explain, much more succinctly than is possible in words, just what ICI means and does.

Another advantage of showing a film on a technical subject in the customer's office is that it attracts a technical audience. Normally, the ICI men in Europe see mainly buyers, who discuss prices and specifications but are not always so knowledgeable on technical matters. One day recently I saw a Plastics Division film shown in different firms to

two groups of technicians, none of whom had previously met any ICI technicians but who had been assembled by their buyers just because a technical film was available. In each case a discussion on topics suggested by the film followed the projection. The film had, as it appeared, raised totally different trains of thought in these two similar groups, showing both the unpredictability of an audience and the value of a film in starting a technical discussion.

At the present time the 8 mm projectors and ICI 8 mm films are being used in twelve countries in eight languages, and the network is extending to the other hemispheres and to Eastern Europe. What was originally planned for Europe may well extend to become global. Until the telephone really adds vision to sound, enabling technical service departments to advise potential customers by both telling and demonstrating over a distance, it would seem to be difficult to improve on the portable 8 mm projector for bringing the user and the technical facts together.

Illustrations by Don Roberts



# Twenty Years After

## —recollections of a wartime escape

by Roy Shirley

In April 1945 the Germans announced to the occupants of Prisoner of War Camp Langwasser 13 on the outskirts of Nuremberg that they were to be marched 150 miles South to a camp at Mooseberg, near Munich. We knew that this was to forestall liberation by the American 7th Army, which was then only 50 miles to the North-West. This was the moment chosen to attempt escape by four prisoners: John, Dicky, "Junior" and the author. . . .

The plan, such as it was, quickly took shape. We would choose our moment and make a run for it under cover of darkness. By hiding up in the daytime and walking at night we should make contact with the American 7th Army in maybe less than a week.

"What about a compass?" I asked: "We can manage without a map, but we must have a compass."

"You can use a watch, somehow, as a compass," Dicky said.

"We haven't got a watch now," John said slowly, "and even if we had one, you can only use it in conjunction with the sun. No, we'll go by the North Star—that'll be a near enough bearing."

We split up the Red Cross parcel issue which had been made for the journey into four equal divisions in weight and made individual packs out of a blanket stitched clumsily with string, using a sharpened piece of wire with a looped eye as a needle.

We were finally as ready as we were ever going to be and settled down into uneasy sleep for what we hoped would be our last night in Langwasser 13.

The march started soon after 12 o'clock the next day, and the long, winding column of some 7000 American and 1000 British prisoners passed out of the camp in hot sunshine.

Guards lined both sides of the column at every dozen yards, rifles slung but sub-machine guns held alertly.

An old soldiers' song started to run through the ranks, picking up and swelling into a lusty chorus, the guards watching silently without expression.

We were out! Outside the wire—even with guards, it made no difference, a wave of light-headedness swept over us all—scruffy, thin, festooned with tin cans, and home-made "blowers" for brewing up—we were outside the wire and the sun was shining!

I glanced at John by my side—Dicky and Junior were immediately behind us.

I spoke in sudden urgency. "Maybe we'll get a chance somehow before tonight. We don't want to walk farther in the opposite direction than we need—see what the form is when we stop for a rest."

The miles unwound slowly beneath our boots and silence gradually dropped over the column. Two hours later we came to a halt at the customary yelling of the guards and fell out on to the grass at the roadside.

A few yards in from the grass were some scrubby, gorse-like bushes and several prisoners moved in front of them, standing with their backs to the road, without dissent from the guards.

I shot a quick glance at the guard nearest to us. He was talking to a fräulein holding a bicycle, one foot idly kicking the pedals in reverse while she stood laughing—bursts of giggling and scattered fragments of meaningless German.

John caught my look and I nodded to Dicky and Junior quickly—it must be now!

When I awoke that morning I had wondered if we would really go through with it—or whether we had all been carried away with our enthusiasm, blinding ourselves to the realities of the situation. Now all I felt was a fierce excitement, my heart hammering painfully against my ribs as we moved casually towards the bushes. Still no word of warning from the guard. Suddenly we were running—madly crashing through the shrub, out into a sparse stretch of ground reaching over a hundred yards to thickly wooded cover.

Furious screaming commands streamed through the bushes—breath coming in short gasps now, the safety of the woods

nearly fifty yards away. Rifles firing—angry, uneven barking explosions and bullets cutting the air around us viciously.

Then we were in the woods.

I was vaguely aware of us being together as we tore into the trees, the sounds of pursuit dying as we plunged deeper into the woods. Half dark with sudden dazzling shafts of sunlight slashing the gloom—no sounds now but torn, sobbing breathing—staggering, falling, the ground hits you like a concrete wall—up and on—someone's back in front of you, thorny branches springing as he blunders on, whipping back into your face savagely—you charge on through and don't hold them back for whoever is behind you—just keep going with bursting chest and jellied legs—and suddenly you can run no more.

We lay where we dropped in our sweating, heaving animal exhaustion—ah, just to stop, to lie on the ground—so good, pine needles, grassy things cold under our burning faces.

"Got, got . . . keep going—ge' cross wa-water. . . ." John was gasping desperately. "They've got dogs—listen!"

We made no move and John was pulling furiously at my shoulder.

"Get up! We're done if we don't get across!"




He staggered forward, half falling down a crumbling bank, and the sound of splashing water brought me to my knees.

"Come on—mus' move—dogs—" I found the strength, gulping brokenly at the grunting forms of Dicky and Junior, and stumbled on down into the river. John was already over, and the water, icy cold, swirled indifferently round my legs as I lurched with precarious, drunken precision to the other side.

Afterwards we all lay huddled together. The sound of the dogs was now lost from our hearing, only harsh, painful breathing and muffled sighing curses breaking the silence.

We sat up slowly and looked around us. We were at the bottom of some sort

4814

Dulag-Luft. Kriegsgefangenenkartei.		Gefangenen- Erkennungsmarke Nr. 9261	Dulag-Luft Eingeliefert am: 22.1.45 L.
NAME:	SHIRLEY	Vorname des Vaters:	
Vornamen:	Roy K.	Familiennamen der Mutter:	
Dienstgrad:	F/Sgt Funktion: G.	Verheiratet mit:	
Matrikel-No.:	1 391 257	Anzahl der Kinder:	
Geburtsdag:	6.9.22	Heimatanschrift:	
Geburtsort:	London	Mr. Shirley 12 Sunninchill Ave. Hove 4 Sussex Engld.	
Religion:	C of E.		
Zivilberuf:	Student		
Staatsangehörigkeit:	brit.		
Abschuß am: 23.12.44 bei: Köln		Flugzeugtyp: Lanc.	
Größe: 1.76		Augen: normal	
Schädelform: rundl.		Bart:	
Haare: blond		Gebiß: 1 Backenzahn fehlt	
Gewicht: kg 54		Besondere Kennzeichen:	
Gesichtsform: rund breit			
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of grass bank like a railway banking, with a few scattered shrubs here and there near the top.

When darkness fell we moved carefully out of hiding and moved up the bank cautiously, Junior leading, then John and myself, and Dicky at the rear.

Junior pushed on quickly without a pause and we increased our pace so as not to lose him in the darkness. God! We seemed to be making a hell of a noise—why doesn't he stop and listen? He was at the top now—I could just make out his blurred silhouette on the ridge.

A sudden shouted command stopped me half-way through a pace and I stayed as I was without moving.

"Hände Hoch! Was ist los? Kommen sie . . ."

I stared urgently at John and read nothing in his white, frozen features.

"Nix shoot, Kamerad. Ich surrender. . . ."

That was Junior. I felt a wave of pity, turning to immediate fear of my own discovery. Incomprehensible raucous German voices now, and the small voice of Junior finally ceasing under an onslaught of guttural orders.

We stayed where we were without moving after they had gone, left to the trembling silence of our dazed thoughts and the settling brush.

I rose swiftly in sudden, automatic action, moving to the top, and heard the trample of John and Dicky behind me, Junior's pack lay on its side where it must have fallen when he raised his hands. I ripped it open quickly and we transferred the contents to our own packs in silence.

"Come on," John said abruptly, "we'd better move—there'll be Jerries swarming all round the place soon."

We pushed forward through a wooded thicket in single file behind John on a rough north-westerly heading until we came unexpectedly to the edge of the trees, confronting a broad ribbon of highway. We lay flat in the undergrowth looking across the road to an extensive triangular piece of grassland dotted with small shrubs and bushes; the whole thing formed an island in the middle of an autobahn junction. From time to time we shrank down as a car or truck's headlights slid by, illuminating the roadside. Just for a moment the road was free of traffic, blanketed in friendly darkness.

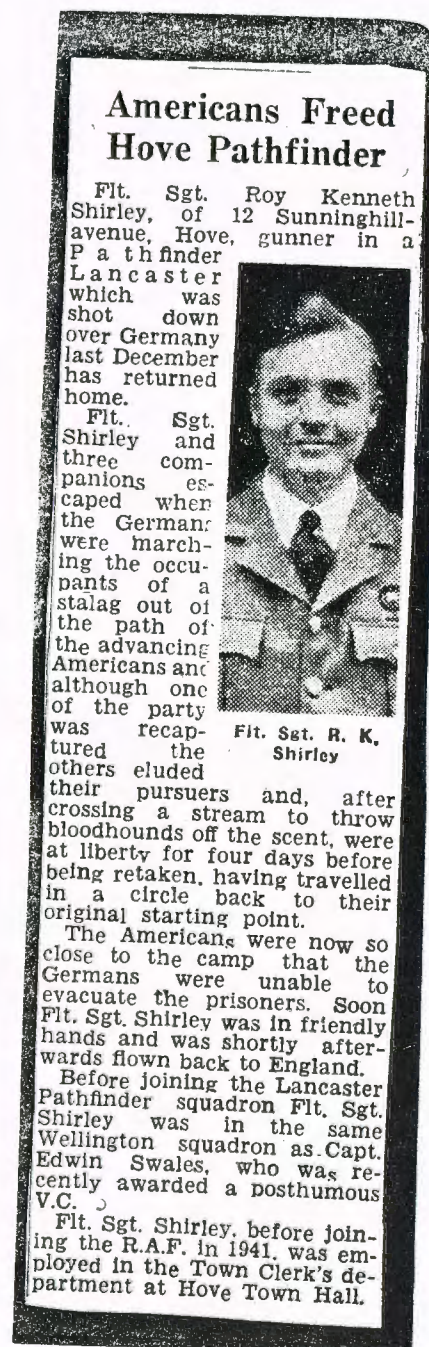
"Quick—now!" Somebody hissed urgently, and then we were up out of cover,

pounding over the broad concrete for the safety of the island.

We reached the edge, dry-mouthed and panting, at the same time as a string of motor-cycle combinations swept noisily round the bend, coming to a halt in a whine of biting rubber, searchlights mounted on the side cars cutting into the night.

We plunged on into the shrub and dropped to the ground in a flurry of shaking branches. The earth felt damp against my face and sour in my nostrils.

The lights swept over the area systematically in long, slow, revealing passes, and



Press cutting from May 1945 issue of "Sussex Daily News"

I lay rigid—eyes screwed tight and hands clenched. Nothing for it but to wait . . . wait . . . wait . . .

Suddenly the lights went out and the roar of starting engines burst into the darkness, increasing to a uniform crescendo, then funnelling down into a steady drone of sound moving into the distance.

I stood up shakily, spitting out pieces of grass and straightening my pack. Dicky was still lying on his face, and I struggled with paroxysms of stifled laughter as he lifted his head and cautiously looked around him.

John was adjusting his gear at my elbow. "What are you laughing at?" he asked, grinning.

"Old Dicky—he—he—looks like—looks," I gasped for breath desperately—"looks like he's breaking out of Alcatraz!"

We all stood shaking with silent laughter and finally steadied down before pushing on through the bushes. The days and nights to come, we reckoned, would be long, uncomfortable and no doubt very tricky, but we had, after all, made a start, and if the truth were told I don't think any of us really thought that we ever would! . . .

**In the event, we failed to reach the American 7th Army lines and were reincarcerated in Langwasser 13, having been recaptured after a week of the standard escape practice of moving across country by night and hiding up during the day.**

**We had better luck with our next effort, however, and tried a new twist—we got out of one section of the camp and into another, where we concealed ourselves amidst several hundred rather aged senior officers of the Serbian army who had been prisoners of Germany since very early days. We did this on the premise that the Germans would not be overconcerned at the possibility of the liberation of these elderly prisoners of no great political value and would be unlikely to transport them deeper into Germany.**

**This proved to be the case, and when the Americans took the camp shortly afterwards we quickly revealed ourselves and were soon on our way home to England.**

**Our attempts to escape and evade imprisonment resulted in our reaching home exactly fifteen days before the end of the war in Europe.**

# CENTENARY OF A CATASTROPHE

by the Editor

On 9th June 1865 there occurred a serious railway accident upon the old South Eastern Railway. The accident took place on the main line between London and Folkestone, a mile or so on the down side from the small wayside station of Staplehurst and incidentally on one of the longest straight stretches of railway track in the whole country.

The precise scene of the accident was where the railway was carried at a height of about ten feet or so across a marshy stream. The track rested on a light structure of cast iron girders and brick piers dignified by the name of the Beult Viaduct. On the day in question, a Friday, repairs were being carried out to this viaduct. These consisted of the replacement of some timber baulks on which the actual rails were laid. The work was being carried out by a small gang of platelayers under the direction of a foreman in charge, a man named John Bengé. It was being done between the passage of trains, of which in 1865 there were many fewer than today. By the afternoon the repairs were almost completed. Only one baulk, in fact, remained to be changed. Bengé intended to do this between the passing of an up train at 2.51 p.m. and a down one at 4.15 p.m. Both Bengé himself and his leading carpenter possessed copies of the company's working timetable. Unfortunately the carpenter had dropped his copy on the track, where it had been destroyed by a passing train. Bengé had studied his own and felt certain of its contents.

Safety regulations covering work of this kind demanded that detonators should be placed at intervals of 250 yards from the point of any repairs, up to a maximum distance of 1000 yards, at which distance two more detonators were to be placed, close together, and a man was to be posted with a red flag. Bengé posted this man, by the name of Wiles, a plate-layer by trade, only 500 yards down the line. He gave him two detonators only and told him not to use them unless the

day, which was fine and sunny, grew misty. Bengé, in fact, was so confident of himself and of the simplicity of the operation of which he had charge that he felt able to relax, if not actually to dispense with, the protection prescribed in the book of rules.

But he had fatally misread his timetable. In those days the cross-channel boats between Folkestone and Boulogne were tidal, owing to the shallowness of Folkestone harbour. The boat expresses, in consequence, did not run to a fixed daily schedule. Bengé, looking at his working timetable, supposed that the up boat express from Folkestone was due to pass at 5.20 p.m. In fact it was due shortly before 3.15 p.m.

When, to the consternation of Wiles, the express was suddenly seen approaching at speed, the remaining wooden baulk was actually in position but the rail had still to be laid upon it. There was a gap in the track, therefore, of approximately 21 feet. The train, consisting of a locomotive and thirteen box-like carriages, was running at about 50 m.p.h. Its brakes were totally inadequate to stop it within 500 yards. Before the mesmerised gaze of Bengé and his gang the express, its whistle shrilling, bore down upon this gap. So great was its impetus that the locomotive, tender and leading vehicle of the train, a brake van, actually carried the gap and came to a standstill, still upright, beyond it. Just conceivably the carriages might have followed as well, but the strain on the flimsy structure of the bridge occasioned by the passage of the unrailed locomotive caused a girder to collapse. As it was, the leading passenger carriage came to rest, hanging at a perilous angle above the stream, saved only because its coupling to the brake van held. The next five carriages fell pell-mell through the viaduct into the mud and water below, where they were smashed and splintered into fragments. Ten passengers died instantly and another forty-nine were gravely injured.

In a compartment of the leading carriage, still hanging drunkenly by its coupling above the debris below, were an elderly lady, a young woman, and a bearded gentleman who had been sitting quietly reading and correcting some manuscripts. They were uninjured but badly shaken, and the landward-side door of their compartment was locked. Moving cautiously so as not to cause further strain on the uncertain balance in which the carriage was suspended, the gentleman put his head out of the window and called to a distracted guard below on the track to unlock the door. This was done, and with the aid of planks the gentleman assisted his companions out of the compartment and to safety on the embankment. He then made his way down to the sodden swamp beneath, filled his hat with water from the stream and set to work among the injured, washing their bloodstained faces, dabbing at open wounds, comforting and consoling where he could, and generally doing the work of a Samaritan. Only when outside help had arrived and a doctor was attending to the injured did the gentleman spare a thought for himself. His thought even then was for his manuscript. Climbing back into the compartment he had been occupying he found it still on the seat, much soiled but otherwise undamaged.

His interest in the manuscript was understandable, for the gentleman was none other than Charles Dickens, the great novelist, and the manuscript was the just completed tale of *Our Mutual Friend*.

A few days later Dickens wrote to the stationmaster at Charing Cross on behalf of the young woman who had been in the carriage with him. She had lost a gold watch and some trinkets during the struggle to get out of the compartment. "I promised the lady," he wrote, "to make her loss known at headquarters, in case these trinkets should be found." Dickens wrote as he might of a chance acquaintance, to whom he was doing a



passing kindness but in fact this girl was his mistress and the trinkets he had given her himself. She was Miss Ellen Ternan, a young actress whom he had first met in 1857 when he had engaged her to help in some amateur theatricals he was putting on. They had been spending a clandestine week together in Paris and were on their way back when the disaster occurred. In these days of universal newspaper coverage and indefatigably prying newspapermen, concealment of such a liaison would be impossible. As it was, the secret, known fully to only a very few of his most intimate friends and suspected by only a tiny circle of the well informed, was the most jealously guarded of his life. For Dickens, despite the magnificence of his achievements, despite his world-wide fame, his commanding position socially, his large family of children and his friends beyond reckoning, was in himself a lonely and unhappy man. The shadows of his childhood experiences for ever oppressed him. He had been born into a world of love, warmth and radiance. Then suddenly his parents' finances had given way and he had been swept into a world of misery and night. Out of this, at a still tender age, he had clawed his way by sheer exertion. Then he had fallen passionately in love. He had fallen in love with a vain shallow flirt of a girl, whose parents were the vulgarest kind of middle-class snobs. They thought the young Dickens beneath them and without prospects. They cold-shouldered him themselves and taught their daughter—if she needed teaching—how to play with a young man's feelings so that he would give up his suit without actually being dismissed. This experience, coming on top of the other, was traumatic. In all Dickens' subsequent relations with women, with his wife, his sister-in-law, who became a kind of mother to the whole family, and even with his heroines in his books, there were, ever after, echoes of this disillusionment. When Dickens met Ellen Ternan, he believed—an ageing, restless man, for ever seeking the turnings he had lost in his youth—that he had refound the magic image of his previous infatuation. Miss Ternan, on the other hand, had been correctly brought up. She set a fully Victorian value on respectability. Flattered, as she could not help being, by the attentions of so famous a man, she dreaded all the time some dire-

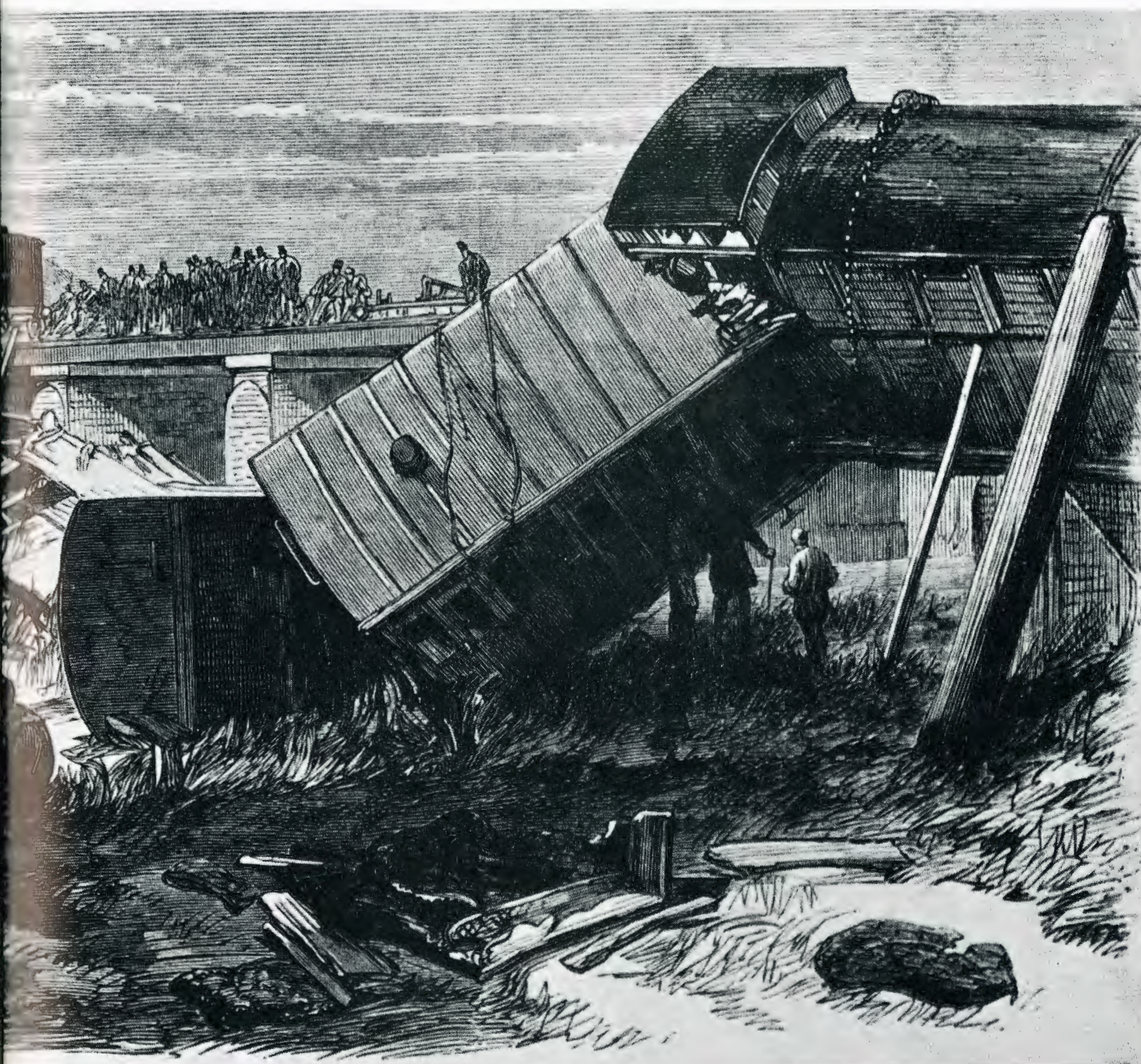


Scene of the fatal accident at Staplehurst, on the S.E. Railway—from a sketch taken next day

ful exposure and the finger of scorn being pointed in her direction. Their relationship was not without stress. In the circumstances of the case the Staplehurst disaster might have exacted of both of them a most alarming forfeit. For Dickens, too—despite an open separation from his wife on the grounds of what we would now call incompatibility—would have had all to lose if his trustful and admiring public, with its strict notions of the sanctity of domestic life, were to have found out that its idol was carrying on with a girl young enough to have been his own daughter. The worst forfeit was

not exacted. None the less, that which was proved heavy enough. For Dickens had been far worse shaken by the experience than he had allowed to appear. Be it remembered that he was in a nervously depleted condition before it happened. Quite apart from the emotional strains of his life, the volcano of his literary genius had been in ceaseless and pyrotechnic eruption for close on thirty years. Such a prodigality could not be without its toll.

Dickens exercised at all times an iron self-control, which had not faltered at the moment of the disaster. When, however, he reached his home at Gad's Hill, a terrible reaction set in and he was



prostrated. Moreover, the prostration continued. Writing, some time after, to his great friend Foster, he recorded that he was still "curiously weak—weak as if I were recovering from a long illness." As late as July he could not endure a railway journey—though he forced himself to make them—with any ease of mind.

It was in fact the beginning of the end. Henceforward almost any kind of travel upset him—"I used to think nothing of driving a pair of horses habitually through the most crowded parts of London. I cannot now drive, with comfort to myself, on the country roads here." For the remainder of his life any sudden change in the rhythm of a railway train's progress,

such as crossing over points or a sudden application of the brakes, would precipitate a painful reaction. His pulse became and remained uncertain. None the less he was incapable of relaxing. The feverish round of public readings of his works, public appearances, social engagements, the editing of periodicals and the writing of his own novels continued, despite the warnings of friends and physicians, if anything at an accelerated pace.

In a postscript to *Our Mutual Friend*, when it appeared in print later that year, Dickens referred to the disaster. "I remember with thankfulness that I can never be much nearer parting company with my readers for ever than I was then,

until there shall be written against my life the two words with which I have today closed this book—"The End." By a strange turn of chance it was precisely five years later to the very day, June 9th, that at Gad's Hill on a calm summer morning, as a result of a stroke the night before, those two words came to be written. Beyond question the shock of the accident had accelerated his decline.

The unhappy Bengie, meanwhile, had been convicted of manslaughter and imprisoned for his part in the catastrophe. But for his fatal lapse, we should not still be arguing whether John Jasper really murdered his nephew in *The Mystery of Edwin Drood*.



## 'PROCION' RECEPTIONS, SPRING 1965

Receptions were held recently by the Dyestuffs Division, both in London and in Manchester, where trade guests were shown colourful displays of dyed and printed fabrics and garments. All the garments and fabrics on view at the receptions represented commercially available goods which had been generously loaned to ICI for these occasions by a large number of dyers and printers and garment manufacturers who are substantial users of 'Procion' fibre-reactive dyes. Mr. L. H. Williams, a Deputy Chairman of ICI and Chairman of ICI Fibres Ltd., who welcomed the guests to the receptions, stressed the help which 'Procion' fibre-reactive dyes were giving to the British textile trade in building up exports.

The accompanying photographs give an idea of the variety and attractiveness of the goods displayed at the 'Procion' receptions and afford a striking illustration of the tendency towards the use of more and more colour in daily life, to which reference is made by the Chairman of Dyestuffs Division, Dr. C. R. Mavin, in another part of the Magazine.





# GLASSBLOWING



H. J. Welbergen

The glassblower looked pensive for a moment.

"Bit of both, I should say . . . largely an art, but science comes into it to quite an extent.

"You have to know your materials. There are different sorts of glass, you see. And you wouldn't use an acid glass in making apparatus for an alkaline solution.

"The scientific glassblower has to learn a certain amount of chemistry, physics and engineering so that he can appreciate the scientist's special requirements when discussing the making of apparatus for some new line of research.

"You could learn a certain amount of glassblowing in a comparatively short time, provided you had the flair for it. But it really takes many years to acquire the real art of glassblowing—and you've got to have the flair.

"A scientific glassblower buys his materials in the form of tubes and spheres, mostly tubes. Using a blast burner, he softens the glass so that it can be shaped into all sorts of forms and apparatus. Grinding and polishing come into the job too, and you can go to very fine measurements—say a fraction of 100,000th of an inch—measuring by light refraction. And the finer your limits the simpler the tools you use. That's where the art comes in."

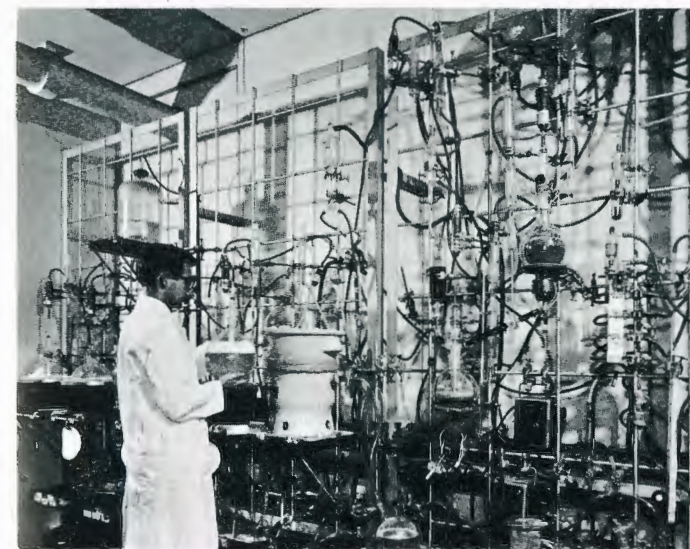
The glassblower we talked to stopped blowing glass—and training new glassblowers—last year when he retired from Mond Division's Winnington Research Laboratory. But in the 43 years since he was enticed from Holland by Dr. Freeth, then head of research for Brunner Mond, Mr. H. J. Welbergen's work has earned him the award of the MBE.

We left Mr. Welbergen to his self-imposed task of decorating his home; a home that displays tastefully many pieces of porcelain, some very old, all very beautiful. We brought back an impression that glassblowing was mainly an art.



Nobel Division

## *Art or Science?*



Plastics Division



Agricultural Division



Dyestuffs Division



Mond Division



# ICI (HYDE)



Top: The new design technical service and development block  
Right: 'Flocor' biological filter packing



ICI (Hyde) and coated fabrics have for years been almost synonymous in the public mind, and the Hyde products of 'Rexine' and 'Vynide' are of world-wide fame. But ICI (Hyde) today is a focus of much change and development, so that despite the large volume produced there of the older and long-familiar materials the emphasis is shifting towards new variants of the established favourites and totally new products which are coming on to the market.

As members of ICI are well aware, ICI (Hyde), which is administratively a part of Paints Division, has its major affinities with and interests in the plastics industry. It maintains two factories, the main one on the 56-acre Newton Works site at Hyde in Cheshire, where about 1800 people are employed, and a smaller one at Coventry which specialises in "trimmings," particularly for the car and furniture trades.

Large sums have been spent on modernisation and improvement and on new machinery, and even greater expansion is to be expected in the future.

## Range of Products

Perhaps the first thing to strike a visitor to Hyde these days is the range of its products. This range, for purposes of simplification, can be divided into three categories. First come the familiar coated fabrics and papers. In this group we find such well-known names as 'Rexine,' 'Vynide,' 'Rexalon' and 'Vynalast.'

Under the trade name 'Ambla' extremely soft and supple expanded vinyl materials have been introduced. They differ from 'Vynide' in incorporating an underlayer of spongy p.v.c. instead of having a solid coating on the base fabric and can be based on either conventional woven fabrics or on jersey materials which give additional stretch. This makes them suitable for making up into articles such as coats and skirts, or for upholstering difficult shapes.

Lastly in this group, but very much not least, we also find 'Vymura.' This is of course the much-publicised vinyl wall-covering whose advent, it can truthfully be said, has been a major event in the

sphere of house decoration. The 'Vymura' range of wallcoverings sets a very high standard indeed in such important qualities as durability, light-fastness and amenability to washing. In all of these it compares favourably with the traditional wallcoverings. Even as regards price, wherein, for a long while wallpapers had the advantage over wallcoverings, the 'Vymura' range can now prove itself a stiff competitor. Its biggest advantage, however, lies in its combining the easy hanging properties and scope for design of a wallpaper with the durability and ability to be washed of a coated fabric. Beyond question this is a product with a big future.

Next come the unsupported p.v.c. sheetings and films—the 'Novon' range. The uses of p.v.c. sheeting and film are so numerous in modern conditions as to need no enlargement.

Finally, there are the semi-flexible and rigid plastics, such as the 'Sintilon' corrugated sheets for roof lighting, 'Vulkide' and other plastic sheets ranging in colour, thickness and rigidity and providing a wide variety of properties.

## New Materials

Mention has been made of Hyde's new materials. Without descending into a mere catalogue, a word should be said about a quite new and decidedly glamorous material initially introduced for the benefit of the shoe and handbag trades, to which the trade name 'Velvon' has been given. 'Velvon' is something like a fusion of suede with natural pile fabrics, but its properties, feel and appearance are unique to itself. The surface of the material consists of many thousands of tiny p.v.c. fibrils which form an integral part of the p.v.c. coating, giving it an outstanding resistance to abrasion, a characteristic handle and a 100% waterproofing, so that when dirty it has only to be washed clean. At the opposite end of the scale one may instance 'Carfene,' made by a new process to give a product approaching the appearance, feel and wearing properties of high-quality leather.

Both these two, and other fashion materials from the Hyde range, are being

marketed under the trade name 'Boccaro'. All the 'Boccaro' range of materials are fully waterproof and washable, and another advantage of the 'Boccaro' collection is that the materials can be used in conjunction with one another for maximum economy and effect.

## The Building Industry

From anything as ephemeral as fashion to something as permanent as building may seem a far cry, but for ICI (Hyde) it is but a step. Very few subjects today take up as much space or figure so largely in industrial and national economic calculations as house building, factory construction and renovation of city centres. The manufacture of the "factory built" house is one sign of the change that is taking place in this once very conservative industry. This changed outlook is leading to the introduction of new building materials, and the prospects for a greater use of plastics in building is very bright. Hyde is well placed to supply many of these needs and already is offering 'Sin-

tilon' corrugated and flat p.v.c. sheet in natural transparent and tinted colours. These are finding many applications in roofing cladding, glazing and partitions.

There are also new rigid sheet materials under both the 'Vulkide' and 'Sintilon' names, which are used for cladding or the construction of chemical plant and other buildings, for partitioning, or for vacuum forming into many and varied articles. Such formed articles are not only used in the building industry, but also as crash pads on motor cars, or as industrial boxes and containers, household fittings and appliances, toys or other articles for the home.

## Water Treatment

Where building is toward, effluent or sewage can seldom be far behind, and it need cause little surprise, therefore, to hear that ICI (Hyde) is as much concerned with the one as the other. The invention by ICI of 'Flocor,' a packing material for effluent and other waste treatment plants, has aroused very wide interest—not only

'Vymura' in the sitting room in the home of Mr. Peter Kneebone, the well-known cartoonist







Left: The North Eastern Electricity Board have developed special fabrications from 'Vulkide' sheet for the additional protection of their workmen while working on "hot" lines  
Opposite page Top: Inspecting 'Vynide.' Quality control plays a major part at every stage of production  
Bottom, left: 'Boccara' styles  
Bottom, right: 'Velvon' shoes can be cleaned under the tap

within the UK but in many places overseas, where numerous licensing agreements have been entered into. Should this material fulfil its expectations and enable much more efficient water treatment plants to be built in the future, it will represent an important advance in a world that is necessarily becoming ever more concerned with the economical use of available water supplies.

ICI has a long-standing interest in the subject of effluent purification, and for a number of years a great deal of research has gone on into this subject at the Company's Brixham Research Station. Studies conducted there gave conclusive evidence that certain plastic materials offered immense possibilities as media for filter beds. 'Flocor,' the result of all this research and investigation at Brixham and elsewhere, can handle loads up to 30 times greater than conventional media and enables effluent throughput to be greatly increased without any increase in the size of the plant—an advantage which may be safely left to speak for itself.

#### Fabrication

Increasingly, in the search for cost saving and quality control, manufacturers of basic material are linking themselves in one way or another with fabricators. In some cases this takes the form of vertical integration of companies from the original raw material right through to the lines sold in the shops. In others the connection is looser. It can be seen, however, that Hyde, which was a pioneer in the welding and vacuum forming of p.v.c. and other materials, is certain increasingly to become a centre of development within ICI for fabrication, for there is little doubt that certain finished products will particularly lend themselves to shaping and forming close to the production of the sheet or film out of which they are made.

In the next decade, therefore, we can confidently look forward not only to even greater expansion at Hyde, but a significant extension of its activities in the sphere of fabrication.





**STEAM IN ARCADY**

